Tevatron Beam Position Monitor Upgrade

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The Tevatron Beam Position Monitor (BPM) readout electronics and software have been upgraded to improve measurement precision, functionality and reliability. The original system, designed and built in the early 1980s, became inadequate for current and future operations of the Tevatron. The upgraded system consists of 960 channels of new electronics to process analog signals from 240 BPMs, new front-end software, new online and controls software, and modified applications to take advantage of the improved measurements and support the new functionality. The new system reads signals from both ends of the existing directional stripline pickups to provide simultaneous proton and antiproton position measurements. Measurements using the new system are presented that demonstrate its improved resolution and overall performance.